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JAN 30 '78

Cotton Fiber and Processing Test Results

CROP OF

1977



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 December 16, 1977

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1977

Discussion of Test Results

Fiber and spinning properties of this season's short staple cottons are superior to last season's cottons. Fibers are longer, more uniform and finer than a year earlier. Fibers are stronger at both zero gage and 1/8" gage tests. Picker and card waste is lower than it was last year. Yarns spun from these samples are much stronger and have a higher spinning potential number.

Average results for all medium staple samples tested through this date a year ago show fibers to be longer, more uniform and coarser. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples are slightly weaker and have lower appearance grades. Yarn imperfections are higher.

Medium staple samples tested from the Southeast show fibers to be slightly longer, more uniform and coarser. Fiber strength is weaker at 1/8" gage fiber strength. Yarns spun from these samples are weaker with lower appearance grades. Average spinning potential is lower.

South Central medium staple samples tested to date show fibers to be longer, more uniform and coarser. Fibers are weaker at zero gage fiber strength. Shirley Analyzer nonlint content is higher, but picker and card waste is slightly lower. Yarns spun from these samples are weaker with lower appearance grades. Yarn imperfections are higher.

Southwestern medium staple samples are longer, more uniform and stronger at zero gage strength tests. Picker and card waste is lower. Yarns spun from these samples are weaker with lower appearance grades. Imperfections and the spinning potential are both lower.

Medium staple samples from the West are slightly more uniform, coarser and stronger at zero gage than a year ago. Shirley Analyzer nonlint content is higher, while picker and card waste is lower. Yarn appearance grades are lower than a year ago. Imperfections are higher.

Southeastern area long staple samples tested are shorter and coarser than a year earlier. Both Shirley Analyzer nonlint content and picker and card waste are higher. Yarns spun from these samples are weaker with lower appearance grades. Spinning potential is lower.

South Central area long staple samples are longer, more uniform and coarser than last season. Both Shirley Analyzer nonlint content and picker and card waste are higher. Yarns spun from these samples are slightly weaker and have higher imperfections. Spinning potential is higher.

Long staple samples tested from the West show fibers to be shorter, less uniform and coarser this year. Fiber strength is stronger. Shirley Analyzer nonlint content is higher. Picker and card waste is lower than a year ago. Yarns spun from these samples are weaker. Yarn imperfections are lower. Spinning potential is lower.

These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

^{1/} Summary of Cotton Fiber and Processing Test Results, Crop of 1976, USDA, AMS Cotton Division, June 1977.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States
through December 9, 1977

Staple group Area, and Crop year	Lots tested	Fiber test results										Processing test results						
		Fibrograph		Mike fine- ness		Fiber strength		S A nonlint waste		P & C waste		Yarn quality		Spin. Potent.				
		2.5% span	50/2.5 unif.	Zero gage	1/8" gage	g/tex	Mpsi	Rdg.	Pct.	Pct.	Pct.	Lbs. 22s	Index	Imparf- ections	No. Carded Yarn	Yarn No.		
Short Staple:																		
Southwest	23	0.95	45	4.5	85	21			3.2	7.1	85	111	13			35		
	73	0.98	46	4.2	89	22			3.2	5.4	100	110	13			49		
Medium Staple:																		
Southeast	33	1.07	45	4.6	86	23			3.2	6.3	106	100	20			56		
	34	1.08	46	4.8	86	22			3.2	6.1	96	94	20			50		
South Central	102	1.08	44	4.2	88	23			2.7	6.2	108	99	16			55		
	123	1.11	45	4.6	86	23			3.5	6.0	104	95	22			57		
Southwest	30	1.07	45	4.1	81	22			3.3	6.4	104	95	22			57		
	46	1.08	46	4.2	86	22			3.2	5.7	100	90	19			54		
West	40	1.12	45	4.1	90	26			2.2	5.6	121	90	19			68		
	62	1.12	46	4.3	95	26			2.5	5.2	120	86	21			69		
U.S. Average	205	1.08	45	4.2	87	24			2.8	6.1	109	98	18			58		
	265	1.10	46	4.5	88	23			3.2	5.8	106	92	21			58		
Significant difference 2/									0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2

1/ Based on a limited number of samples of modal quality
2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through December 9, 1977

1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results						
		Span	Length	Mike	Strength	SA	P&C Waste	Comber Waste	Yarn Quality		Appearance		Imperfcts	
					Zero gage				carded	combed	carded	combed	card	comb
No.	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Lbs. 22s	Lbs. Carded	Indx.	Indx.	No.	No.
Long Staple:														
Southeast														
1976	7	1.15	45	4.4	87	25	2.9	6.3	15.7	118	139	106	120	8
1977	12	1.13	45	4.8	88	23	3.5	7.1	*	99	*	102	*	*
South Central														
1976	3	1.12	42	3.7	91	26	3.4	6.8	20.3	109	137	97	103	10
1977	3	1.16	45	4.5	92	24	4.3	7.2	*	106	*	97	*	24
West														
1976	1	1.20	48	3.8	89	26	2.9	6.4	11.8	147	162	90	100	30
1977	6	1.18	47	4.1	92	27	3.2	6.0	*	130	*	92	*	24
Significant Difference 2/														
1/	0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s)	5	5	2	3
2/	Minimum differences considered to be significant for comparisons in this table.								2(50s)	2(50s)				
*														

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

* Combed data not available.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification		Fiber Test Results								Processing Test Results - Carded Yarns							
Sample Number	Digital Fibrograph	Mike	Fiber Strength	S.A. Non- lint	Color Raw Stock	P & C Waste	Elongation	Appearance Index	Imperfect's 8s or 22s or 74 tx	Spin. Potential							
No.	Grade	2.5% span	Unif	Zero 1/8"	Gra Yel	8s or 22s or 74 tx	22s or 27 tx	8s or 27 tx	8s or 22s or 74 tx	No.							
	Name & Code	32s	In	Pct	Rdg	Mpsi G/tex	Pct	Pct	Pct	No.	No.						
SOUTHWEST AREA																	
NORTHWEST TEXAS																	
ANSON	3 MID LT SP	31	0.93	47	3.8	90	23	7.5	3.5	2	4	5.5	285	92	7.6	6.2	120
BROWNFIELD	2 SLM	41	33	1.01	46	4.0	87	22	6.3	3.1	1	4	5.5	312	106	7.8	6.3
GORREE	3 MID LT SP	32	32	1.05	47	4.6	84	23	6.6	2.9	1	4	4.0	314	108	7.8	6.3
HALE CENTER	2 SLM	41	33	1.03	46	4.0	87	22	6.9	4.0	1	3	5.6	307	105	8.3	6.5
LOCKNEY	3 MID LT SP	32	33	1.04	46	4.0	89	21	6.4	3.0	1	3	4.7	317	113	7.2	5.7
LOCKNEY	2 MID LT SP	32	31	0.96	48	4.6	81	21	6.7	2.6	2	3	5.4	273	90	7.3	5.8
LOOP	2 MID LT SP	32	31	0.96	47	4.3	87	20	6.6	3.0	1	4	4.8	289	100	7.1	5.8
LORENZO	3 MID	31	32	1.02	45	3.9	85	22	6.6	2.3	0	3	5.0	292	100	7.5	6.0
NEWCASTLE	2 MID LT SP	32	32	0.97	46	4.4	89	20	6.5	3.2	1	4	5.5	278	96	7.1	5.7
PADUCAH	2 MID LT SP	32	31	1.01	47	4.5	86	20	6.7	2.9	1	4	4.6	284	98	7.5	6.2
PETERSBURG	3 SLM	41	32	1.01	46	4.2	83	22	6.7	2.6	1	3	5.0	295	99	7.8	6.3
RALLS	2 SLM	41	33	1.04	45	3.5	83	22	7.3	3.9	1	3	6.2	300	103	8.4	6.5
RULE	3 MID LT SP	32	32	1.03	44	3.8	88	23	6.2	3.2	1	4	5.6	302	107	7.4	5.9

1/ Cotton stuck to processing rolls

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number		Fiber Test Results										Processing Test Results - Carded Yarns							
No	Grade	Digital Fibrograph	Mike	Fiber Strength	Elong- gat'n 1/8"	S.A. Non- lint	Color Raw Stock	P & C Waste	Strength	Elongation	Appearance Index	Imperfect's	Spin. Potential						
		2.5% Staple span	Unif Staple span	Zero Gage	1/8" Gage	Gra nt	Yel Gra	74 tx	8s or 22s or 27 tx	No	No	No	No	No					
32s	In	Pct	Rdg	Mpsi	Gtex	Pct	No	Pct	Lbs	Pct	Pct	Pct	No	No	No	No	No		
SOUTHWEST AREA--(Continued)																			
Northwest Texas--(Continued)																			
SNYDER									WESTERN SP44										
2 MID	31	31	0.96	45	4.3	87	21	6.7	2.6	1	3	6.1 1/ 295 101 7.9	5.9	120	110	20	12	4.8	
TULIA	2 SLM LT SP	42	32	0.96	48	3.9	86	22	STRIPPER 31	4.4	2	4	6.5 297 99 7.4	6.3	120	110	20	11	4.8
VERNON	2 MID LT SP	32	30	0.98	47	4.5	90	21	LANKART 57	3.2	3	4	5.5 273 91 7.6	6.0	130	110	21	19	4.1
VERNON	2 SLM LT SP	42	33	1.04	46	4.2	103	22	LOCKETT 77	3.4	2	3	5.0 308 103 7.8	6.3	130	110	21	13	5.6

1/ Cotton stuck to processing rolls

Table 3 -Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number		Fiber Test Results								Processing Test Results - Carded Yarns							
No.	Grade	Staple	Digital Fibrograph	2.5% span	Unif.	Fiber Strength	Mike Zero Gage	1/8"	Elong- at'n 1/8"	S.A. Non- Lint	Color Raw Stock	P & C Waste	Strength	Elongation	Appearance Index	Imperfect's No.	Spin. Poten- tial
32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	Pct	Pct	No.	No.	Pct	Lbs	Pct	No.	No.	No.
SOUTHEAST AREA																	
ALABAMA																	
HAMILTON	3 MID LT SP	32	33	1.10	44	4.5	83	22	7.3	1.9	2	3	4.5	92	28	5.9	4.5
MONTGOMERY	1 SLM LT SP	42	34	1.12	47	5.0	80	22	7.5	2.9	3	3	5.5	101	32	5.9	4.6
	2 SLM LT SP	42	34	1.13	46	4.9	78	21	7.6	3.6	2	3	5.9	99	32	5.6	4.0
PRATTVILLE	2 SLM LT SP	42	35	1.13	46	4.6	91	25	5.6	3.1	3	3	6.1	109	35	5.5	4.3
GEORGIA																	
ALLENTOWN	3 SLM LT SP	42	34	1.07	45	4.7	86	22	5.8	3.5	3	4	7.4	92	28	5.0	3.6
SHELLMAN	2 MID LT SP	32	34	1.10	46	5.2	78	21	7.7	2.2	2	4	5.6	100	33	5.8	4.1
SOCIAL CIRCLE	1 SLM LT SP	42	34	1.09	44	4.8	80	21	6.4	4.1	3	3	7.7	90	28	5.2	3.5
SOUTHCAROLINA																	
MAYESVILLE	3 SLM	41	36	1.13	47	4.5	84	23	5.9	2.5	2	2	5.3	109	36	5.6	4.4
SOUTH CENTRAL AREA																	
LOUISIANA																	
ALEXANDRIA	3 SLM LT SP	42	34	1.10	44	4.3	81	22	6.7	3.1	3	3	5.7	85	25	5.3	3.8
MONROE	3 SLM	41	35	1.14	46	4.4	79	23	7.7	3.2	3	2	6.4	108	37	6.7	5.2
SHREVEPORT	3 SLM	41	35	1.11	45	5.1	81	22	7.6	3.4	1	2	4.9	100	32	6.0	4.4
MISSISSIPPI																	
BRANDON	3 SLM LT SP	42	34	1.08	44	4.6	82	21	7.4	3.5	3	3	6.2	85	29	5.3	3.9
EDWARDS	3 SLM	41	34	1.10	45	4.7	78	21	6.7	2.5	2	2	4.9	100	34	5.8	4.5

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification		Fiber Test Results										Processing Test Results - Carded Yarns												
Sample Number		Digital Fibreograph			Fiber Strength			S.A.			Color		Strength		Elongation		Appearance Index		Imperfect's		Spin-Potential			
No	Grade	Staple span	2.5% Unif.	Mike	Zero Gage	1/8"	Elong-gat'n 1/8"	Non-Lint Gage	Raw Stock	P & C Waste	22s or 27 tx	50s or 22s tx	50s or 27 tx	22s or 27 tx	50s or 27 tx	22s or 27 tx	50s or 27 tx	22s or 27 tx	50s or 27 tx	No	No			
32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	Pct	Pct	Lbs	Lbs	Pct	Pct	No	Pct	No	Pct	No	No				
SOUTHWEST AREA																								
NORTHWEST TEXAS																								
ELDORADO 3 MID LT SP	32	31	0.96	44	3.4	88	22	6.8	3.5	2	3	6.6	83	23 ₁ /2	5.3	4.3	80	70	23	27	25			
LUBBOCK 3 SLM PLUS	40	36	1.17	46	4.7	87	24	6.7	COKER 312			5.5	114	39	5.8	4.5	70	70	33	24	61			
LUBBOCK 3 SLM PLUS	40	36	1.14	43	3.6	81	22	7.6	COKER 5110			6.0	107	37	6.1	4.8	80	60	29	23	52			
WEST AREA																								
ARIZONA BOWIE 2 MID	31	34	1.11	44	4.6	81	19	6.2	3.5	1	3	5.4	96	30	5.6	3.9	90	70	17	14	52			
BUCKEYE 2 SLM	41	35	1.09	46	5.1	88	24	6.8	DELTA PINE 61			2.5	2	3	5.4 ₂ /	107	35	5.8	4.4	100	70	17	12	55
BUCKEYE 1 SLM	41	34	1.09	47	5.3	91	23	5.7	STONEVILLE 213			3.3	2	3	6.6	97	29	5.2	3.6	110	80	12	9	51
MARANA 1 SLM LT SP	42	35	1.13	44	4.0	78	24	8.3	DELTA PINE 61			3.5	3	3	5.6	110	36	7.0	5.1	80	60	26	23	67
MARICOPA 2 SLM	41	35	1.13	43	4.6	87	24	6.7	DELTA PINE 16			2.3	2	2	5.6	108	36	6.0	4.5	100	70	17	14	58
MARICOPA 1 SLM	41	34	1.07	44	5.2	89	24	6.5	DELTA PINE 61			3.2	3	3	6.1	94	30	5.1	3.9	90	70	23	19	44
QUEEN CREEK 1 SLM	41	35	1.10	46	5.0	88	23	6.4	DELTA PINE 61			3.0	1	3	5.7	99	32	5.5	4.1	90	70	22	19	54

* 100% selected for tests, less than 100% in the area.

¹/ End breakage to high to spin 50s yarn. 36s yarn spun and strength adjusted to equivalent of 50s.

²/ Cotton stuck to processing rolls.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of --(Continued)

Production Area, Classification & Sample Number		Fiber Test Results								Processing Test Results - Carded Yarns											
No	Grade	Stple	Digital Fibrograph	Fiber Strength	Elong- at'n 1/8"	S.A.	Color Raw Stock	P & C Waste	Strength	Elongation	Appearance Index	Imperfect's No		Spin- Potential No							
		2.5% span	Unif.	Mike	Zero Gage	Gage	Non- Lint Gra	Yel	22s or 27 tx	50s or 27 tx	22s or 12 tx	50s or 27 tx	22s or 12 tx	50s or 27 tx	22s or 12 tx	50s or 27 tx					
WEST AREA--(Continued)		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	Pct	Lbs	Pct	No	No	No	No				
CALIFORNIA																					
ARVIN																					
3 SLM PLUS	40	36	1.13	47	4.1	95	27	6.5	2.3	1	4	4.5 1/	130	4.3	6.0	5.0	80	70	23	18	77
BAKERSFIELD	41	36	1.13	47	4.1	92	25	6.3	3.2	1	3	5.0 1/	122	4.5	5.7	4.7	80	60	22	17	78
BUTTONWILLOW																					
2 MID	31	35	1.14	47	4.1	96	28	6.2	2.0	0	2	4.2 1/	124	4.4	6.0	4.8	80	70	17	15	72
CHOWCHILLA																					
2 SLM PLUS	40	36	1.12	47	4.2	99	29	6.0	2.9	0	2	5.1	143	5.2	6.4	5.0	90	70	20	17	87
COALINGA																					
2 MID	31	35	1.12	46	4.8	103	28	5.8	2.0	0	3	5.2	126	4.2	5.7	4.1	80	70	19	12	64
COALINGA																					
2 MID	31	35	1.12	48	4.5	97	27	5.8	1.6	0	3	4.6 1/	125	4.2	5.6	4.4	100	80	10	11	73
FIREbaugh																					
2 MID	31	36	1.15	47	4.3	96	26	6.5	1.8	0	3	4.5	128	4.6	5.9	4.5	90	70	13	13	78
FIVE POINTS																					
2 MID	31	36	1.14	47	4.4	93	26	6.2	3.1	1	3	5.9	129	4.5	5.9	4.7	90	70	14	13	74
HOLTVILLE																					
1 SLM	41	34	1.04	45	5.1	93	23	5.9	3.0	2	2	6.9	84	27	4.7	3.6	90	70	39	29	41
LOS BANDS																					
2 SLM	41	36	1.18	48	4.2	94	30	6.3	3.9	0	2	5.3	134	4.7	6.3	4.8	90	60	19	18	83
MENDOTA																					
2 SLM PLUS	40	36	1.12	47	4.3	99	30	6.5	2.0	0	3	4.8	139	5.0	6.0	4.8	90	70	19	17	76
SAN JOAQUIN																					
2 SLM PLUS	40	36	1.13	48	4.7	94	28	6.3	2.3	0	3	5.4	133	4.6	6.0	4.7	100	80	13	9	79
SHAFTER																					
3 SLM	41	36	1.14	44	3.6	96	26	6.6	2.9	1	3	5.5 1/	123	4.3	6.2	4.7	80	60	23	22	70

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(continued).

1/ Cotton stuck to processing rolls.

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification		Fiber Test Results								Processing Test Results - Carded Yarns								Spin. Poten- tial					
Sample Number		Digital Fibrograph		Fiber Strength		Elong- ation 1/8"		S.A. Non- Lint		Color Raw Stock Gra. Yel		P & C Comber Waste		Elongation		Appearance Index		Imperfect's		Spin. Poten- tial			
No.	Grade	2.5% Span	Unif.	Mike Zero Gage	1/8"	Gage	Gage	1/8"	1/8"	27 tx	27 tx	27 tx	27 tx	27 tx	27 tx	27 tx	27 tx	No.	No.	No.	No.		
32S	In	Pct	Rdg.	Mpsi	G/tex	Pct	Pct	No.	No.	Lbs	Lbs	Pct	Pct	No.	No.	No.	No.	No.	No.	No.	No.		
SOUTHEAST AREA																							
ALABAMA	JACKSONVILLE	3 SLM SP	43	34	1.12	46	4.07	91	24	6.2	4.4	4	6.7	96	31	5.4	3.7	100	90	20	13	58	
GEORGIA	MADISON	2 SLM LT SP	42	34	1.08	44	5.1	87	21	5.9	4.1	4	7.2	87	24	4.8	3.0	100	90	20	14	49	
		3 SLM SP	43	34	1.14	44	4.5	86	23	6.0	4.1	4	7.4	95	29	5.0	3.6	90	80	20	15	56	
NORTH CAROLINA	DUNN	3 LM	51	35	1.15	46	4.08	87	24	6.3	2.9	4	2	6.7	106	36	5.3	4.0	100	80	22	18	64
SOUTH CAROLINA	HARTSVILLE	3 LM	51	37	1.18	47	4.05	94	25	5.8	3.3	3	2	6.6	107	37	5.2	4.0	100	90	23	19	69
SOUTH CENTRAL AREA																							
MISSISSIPPI	LAKECORMORANT	3 LM	51	36	1.19	46	4.06	95	25	5.3	5.3	4	2	8.1	107	36	5.0	3.9	100	80	21	17	64
WEST	NEW MEXICO HATCH	2 SLM LT SP	42	37	1.21	48	4.01	93	27	6.6	4.3	1	3	7.4	134	50	6.3	5.2	90	70	28	21	112
LAS CRUCES	2 MID	31	36	1.19	46	4.0	95	27	6.4	1.4	0	3	5.2	131	48	6.3	4.8	90	70	28	18	92	
WEST TEXAS CLINT	2 SLM	41	36	1.17	47	4.01	95	27	6.3	3.5	2	3	6.6 ^{1/}	125	44	5.4	4.3	90	80	16	11	89	

* 100% selected for tests, less than 100% in the area.
^{1/} Cotton stuck to processing rolls.

